

AMENDMENTS TO THE CLAIMS:

Please cancel claim 2, without prejudice. Amend claims 1, 3 and 8-11, as shown below.

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (currently amended): A reproduced signal equalizing method for optical information media in which reproduced signals obtained by irradiating laser light to an optical information medium are equalized so as to bring a waveform thereof close to a waveform having a predetermined characteristic, the method comprising the steps of:

sampling reproduced signals in a predetermined cycle;

calculating an equalization coefficient for producing a smallest difference between a target waveform and an equalized waveform by the least square technique by using a ~~predetermined number~~ 3000 or more of sampled waveform data; and

equalizing reproduced signals by using the calculated equalization coefficient.

Claim 2 (cancelled).

Claim 3 (currently amended): A reproduced signal equalizing method for optical information media according to claim 1, the method further comprising the steps of:

inputting the reproduced signals sampled in the predetermined cycle to a Viterbi decoder; and

defining ~~[[a]]~~ said target waveform as a waveform ~~resulting from equalization of the reproduced signals~~ based on binarized data demodulated by the Viterbi decoder and a partial response waveform.

Claim 4 (original): A reproduced signal equalizing method for optical information media according to claim 3, wherein a partial response value (1,2,2,2,1) is used as the partial response waveform.

Claim 5 (original): An optical information reproducing apparatus having a function for equalizing reproduced signals by using a reproduced signals equalizing method according to claim 1.

Claim 6 (original): A signal quality evaluating method, comprising the steps of:

equalizing reproduced signals by using a reproduced signal equalizing method according to Claim 1; and

evaluating quality of the reproduced signals from the equalized reproduced signals and binary identification data.

Claim 7 (original): A writing condition adjusting method, wherein a recording condition is adjusted based on an evaluation result of a signal quality evaluation method according to claim 6.

Claim 8 (currently amended): A reproduced signal equalizing method for optical information media in which reproduced signals obtained by irradiating laser light to an optical information medium are equalized so as to bring a waveform thereof close to a waveform having a predetermined characteristic, the method comprising the steps of, in order to read out information recorded on the optical information medium:

equalizing ~~a predetermined number~~ 3000 or more of samples of the reproduced signals by using a predetermined initial filter coefficient and generating a first equalized signal; identifying the first equalized signal by using a Viterbi decoder and obtaining a provisional identification result therefrom;

generating a target signal from the provisional identification result and a predetermined partial response waveform;

calculating a filter coefficient for producing a small difference between the target signal and the reproduced signals about the predetermined number of samples;

equalizing the reproduced signals by using the calculated filter coefficient and generating a second equalized signal; and

identifying the second equalized signal by using the Viterbi decoder.

Claim 9 (currently amended): A reproduced signal equalizing method for optical information media according to claim 8, wherein the ~~predetermined~~ number of samples is ~~a number~~ selected from 3,000 to 10,000.

Claim 10 (currently amended): A reproduced signal equalizing method for optical information media in which reproduced signals obtained by irradiating laser light to an optical information medium are equalized so as to bring a waveform thereof close to a waveform having a predetermined characteristic, the method comprising the steps of, in order to calculate an equalization coefficient for an equalizer used for reproducing binary signals recorded on the optical recording medium:

equalizing ~~a predetermined number of~~ 3000 or more samples of the reproduced signals by using a predetermined initial equalization coefficient and generating a first equalized signal;

identifying the first equalized signal by using a Viterbi decoder and obtaining a provisional identification result therefrom;

generating a target signal from the provisional identification result and a predetermined partial response waveform; and

calculating an equalization coefficient for producing a small difference between the target signal and the reproduced signals about the predetermined number of samples.

Claim 11 (currently amended): A reproduced signal equalizing method for optical information media according to Claim 10, wherein the ~~predetermined~~ number of samples is a ~~number~~ selected from 3,000 to 10,000.

HAYES SOLOWAY P.C.
3450 E. SUNRISE DRIVE,
SUITE 140
TUCSON, AZ 85718
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567